

Exploring an Assessment Module in Distance Education at the University of Pretoria

Maryke Anneke Mihai
University of Pretoria

The study aimed to describe many aspects of a Distance Education (DE) assessment course at the University of Pretoria. The researcher wanted to examine how the course evolved from pre- to post-COVID-19. This included looking at the content and assessment of the module, as well as the pedagogy and technology used, using the TPACK framework. The researcher used a descriptive qualitative case study, with semi-structured interviews with the tutors and administrators of DE and Google Form surveys for the 30 students that took part. They commented on the DE management, the Blackboard LMS, the tutors' pedagogy and the course's content and assessment. The management of DE was described as successful, and the students liked the content of the assessment module as well as the assignments and pedagogy of the tutors. The students and tutors suggested possible improvements in the content and assignments. The Blackboard LMS was described as easy to use, but some students experienced problems with connectivity and lack of data.

Keywords: assessment course, Blackboard LMS, content, distance education, pedagogy

INTRODUCTION

For a number of years, the University of Pretoria has been offering a variety of distance education programs. Currently, since 2017, the Unit for Distance Education (UDE) in the Faculty of Education specializes in the BEd Honors in Computer Integrated Education, Learning Support, Education Management, Law and Policy, and the undergraduate Advanced Diploma in School Leadership and Management (SLM) and Advanced Diploma in Visual Impairment Studies. The API733 (an assessment module) is part of the graduate qualifications of the Honors specializations. The role players in all modules are the DE administration, the academic supporter, the tutors, the module coordinator, and the students.

BACKGROUND OF THE UNIT OF DISTANCE EDUCATION (UDE)

In previous years, all the study material for DE students was sent by post. Since the new programs started in 2017, some modules still prescribed textbooks, but all lecture content is digital and uploaded on the Blackboard Learning Management system, called ClickUp at the University of Pretoria, using a common template for all UDE modules. The Department of Education Innovation provides initial training, but continuous ongoing training is provided in groups and on an individual basis by the DE instructional designer and the E-learning support officer. There is no dispatch of printed material to students anymore. Content is mostly derived from varied internet resources and all links to resources are posted on ClickUp.

Textbooks may be recommended but not prescribed. Large classes are split into groups of 50 students or less, and a tutor is appointed to oversee teaching and learning activities.

Before the onset of Covid-19, face-to-face contact sessions were conducted in five different venues across the country. Contact sessions play an important role in the pedagogy at the UDE. During contact sessions, the academic staff gives lectures, facilitates activities, and offers study support, especially before assignments. Issues that came up during the marking process of previous assignments are discussed. Students have an opportunity to interact with the tutors and their fellow students. Since the start of Covid-19, these contact sessions have been conducted online, facilitated in Blackboard Collaborate. After Covid-19, some face-to-face contact sessions were conducted again, but most stayed online due to a low attendance rate in face-to-face sessions. There are two mandatory orientation sessions for tutors twice a cycle and at least three contact sessions for students before assignments. Each module also conducts in-between contact sessions as needed. Discussion boards are used for academic discussions. A virtual call center has been set up to respond to student and facilitator inquiries. Students also have the opportunity to send SMS's to make inquiries, and the standard time to answer such inquiries is three days.

Learning guides for each module are uploaded on ClickUp, incorporating important dates for each module and guidelines for assessment, as well as the module content. Students also receive training on how to use the libraries and computer labs.

DE students are taken every six months, from April to September and October to March. In each six months they should complete two modules. They have a minimum of two and a maximum of four years to complete the degree, thus eight assessment opportunities to complete eight modules. If a student cannot keep up with the suggested schedule, he or she may submit for only one module or even no module in an examination cycle. The student may attend the contact sessions even if he or she does not submit assignments, but must be registered. All assessments are conducted online, there are no physical written exams. The weighting of the three assignments are 10%, 20% and 70%, of which the last one is seen as the end exam.

OTHER SOUTH AFRICAN UNIVERSITIES

The University of South Africa (UNISA) is South Africa's only university offering only distance learning programs and has existed for 140 years. They supply materials on paper/textbooks and/or online materials and use myUnisa as LMS. They offer 64 Natural Sciences and Maths, 47 Business Management, 44 Education and Training, 39 Humanities, 34 Social Sciences, 31 Law, 13 Computer Sciences and IT, 11 Environmental Studies and Earth Sciences, 10 Agricultural and Forestry, 10 Applied Sciences and Professions, 10 Medicine and Health, 7 Arts, Design and Architecture, 4 Hospitality, Leisure and Sports, and 2 Journalism and Medicine qualifications.

The University of Johannesburg (UJ) started offering 100% online courses in 2017. They use Blackboard as LMS and offer an Advanced Diploma in School Leadership and Management, Bachelor of Education Honors in Education Leadership and Management, Master of Education in Information and Communication Technology and Master of Education in Educational Management. The University of the North West (NWU) offers a BEd Honors in Curriculum Studies, Educational Management and Leadership, Life Orientation, Maths Education and Special Needs. These are fully web-based programs supported by NWU's eFundi platform. The University of the Witwatersrand offers a variety of online short courses, while the University of the Free State offers a variety of blended distance degrees.

TEACHING PRINCIPLES FOR SUCCESSFUL ONLINE COURSES

The DE administration, module coordinator, academic supporter and tutors must acquire knowledge about online students. Learning objectives, instructional activities and assessments need to be aligned. Explicit expectations about learning objectives, content and assessment activities must be communicated and reinforced. Everybody must know the knowledge and skills that need to be focused upon (Eberly Center, 2022). Course activities need to enable students to transfer and apply concepts. Students need

contact sessions to capture and hold their attention, and distractions or extraneous information must be avoided. Learning activities need to be increased as the module progresses. Small-stakes continuous assignments must be used to build motivation. Clear expectations and regular updates must help students keep current with the course. Courses must be refined based on reflection and feedback (Bates, 2015).

ADULT LEARNING PRINCIPLES

Most DE students are already professionals in the teaching field and as a result, they have less time for their post-graduate studies. Most of them are not active online, do not attend support sessions, and therefore struggle to excel in the module. The lecturer needs to do a lot of things to help students succeed, like:

- provide the objectives and intended outcomes of the course
- explain the purpose of instructional content and activities
- provide scaffolded paths for complex topics or tasks
- create a class atmosphere where students feel respected and encouraged, secure to question assumptions and provide opportunities to question and expose different points of view.
- assist students along the way by providing continuous feedback, resources, and critical frameworks that help them find their own paths to learning.
- use instructional approaches that provide opportunities for exploration and active participation.
- encourage students to reflect upon and apply learning to their experience or to real-world situations.
- create opportunities for students to interact and learn together.
- provide for problem-solving tasks rather than just memorization of content.
- present instruction in diverse ways that allows students to approach learning from different perspectives.
- share your expertise and knowledge but focus on facilitating your students' own learning rather than just imparting information.
- ensure you cater for different learning styles (Valamis, 2020).

MAIN TOPICS OF THE API733 COURSE

- Assessment concepts, terminology and purpose of assessment
- International assessments like PIRLS and TIMSS
- Quantitative and qualitative assessments
- Advantages and disadvantages of these types and hints to draw up the different assessments and what to avoid
- Reasons for using different types of assessment
- Advantages and disadvantages of different types of assessment
- Bloom's taxonomy
- Formative and summative assessments
- Criterion and norm referenced assessments
- Effective assessments, for example Likert scale
- Mastery and struggling learners
- Generating evidence for assessment
- Normal distribution, z-scores, T scores
- Item difficulty and discrimination
- Mean, mode, median, standard deviation
- Computer based assessment

RATIONALE OF THE RESEARCH

As indicated previously, the current DE BEd Honours started in 2017. The researcher was the module coordinator of the API733 module since the start. She decided to review the different aspects of the module to see if changes are needed. The purpose of this study was to thoroughly investigate the teaching and learning experiences of all role players in this module. This was to determine if the DE administration, the use of technology and the pedagogy and content of this module could be improved. It was also a necessity to align the face-to-face and Distance qualifications.

RESEARCH QUESTIONS

Main Research Question

What are the teaching and learning experiences of the different role players in the API733 module in the DE program of the University of Pretoria?

Sub Research Questions

- What are the attitudes of all the role players towards the module API733?
- How do all the role players perceive the content of the API733 module?
- How do the students feel about the pedagogy of the academic supporter and tutor?
- How do the role players perceive the assessment in the API733 module?
- How do the role players feel about the technology used in the module?
- How do the different role players feel about the management and administration of the module in Distance Education?

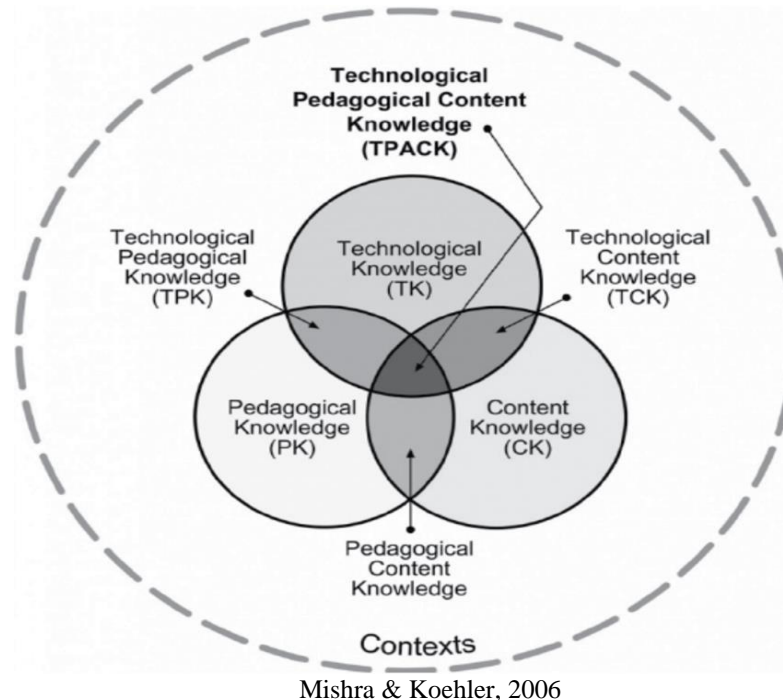
THEORETICAL FRAMEWORK: TECHNOLOGICAL PEDAGOGICAL AND CONTENT KNOWLEDGE FRAMEWORK (TPACK)

The TPACK model is based on Shulman's (1986) explanation of Pedagogical Content Knowledge (PCK), how educators' PCK work together to produce effective learning and teaching. TPACK extended these two elements to create three main elements for effective teaching and learning: content, pedagogy and technology (Graham, 2011; Koehler & Mishra, 2009).

This study used an adaptation and extension of the TPACK framework by concentrating on:

- The role players in this module, namely the UDE, academic supporter, tutor and students.
- The administration and management of the module by the UDE.
- The content of a DE assessment module.
- The pedagogy used by the academic supporter and tutors in the assessment module.
- The technology used by the DE, academic supporter, tutors and students, namely the affordances of Blackboard.

FIGURE 1
THE TPACK MODEL



METHODOLOGY

Methodological Paradigm

Qualitative research involves collecting and analyzing how “humans arrange themselves in their settings” and “how inhabitants of these settings make sense of their surroundings” (Maree, 2020). The proposed study used a qualitative methodology to acquire new knowledge. The study undertook a qualitative approach because it dealt with words and meanings to understand the participant’s ideas, beliefs, opinions and experiences. The data was analysed to gain insights into the DE administration, students, academic supporter and tutors’ views of an assessment module. The benefit of the ideas and experiences is the potential improvement of the administration, content, pedagogy and technology used in this module.

Research Design

Concentrating on a single module, a case study approach was used. Case study research is a method that allows the in-depth analysis of a complex phenomenon in a real-life situation or problem (Coimbra & Martins, 2013). A descriptive case study was conducted during this investigation. Descriptive case studies often attempt to describe a particular situation or case that happens or happened in real-life in a lot of detail. It usually includes a description of the people or groups that are involved in a given situation, as well as additional facts of the situation/case at hand that enables readers to understand the problem and the causes better (Adolphus, 2020).

Sampling

Maree (2020) defines convenience sampling as a method researchers use to select samples for research data because they are quickly and conveniently available. Still, it does not necessarily result in a representative sample. The sampling for this study was convenient because all the participants were available on Blackboard and signed up for a specific module of the module coordinator in question. Maree (2020) describes purposive sampling as selecting samples with a specific objective in mind. All participants

had something to do with a specific online assessment module (API733). Semi-structured interviews were held with the UDE's administrative officer and instructional designer, and the academic supporter and tutors in the module. Thirty students filled in an open-ended Google Form survey.

Data Collection Strategies

Kabir (2016) describes data collection as the systematic process of gathering information from relevant sources to answer research questions, test hypotheses, and achieve the research project's objectives. There are various methods for data collection. I used semi-structured interviews and an open-ended Google Forms survey in this research study. Nieuwenhuis (2020) defines semi-structured interviews as open-ended, probing questions that the researcher develops before the interview. He explains that the researcher asks a list of open-ended questions and further probes and clarifies without getting side-tracked by trivial aspects. The semi-structured interviews were used for the individuals, the DE administrator and instructional designer, the academic supporter and tutors of the module. I also used an open-ended survey on Google Forms, defined as a research tool that collects "information from a sample of individuals through their responses to a question" (Check, 2011). I used this data collection method to obtain a wide range of responses to different questions. I asked students to expand and give reasons to every question. The self-created survey also allowed me to get the experiences and answers for these questions without needing to interview every participant in my research, and specifically to keep the students anonymous, so that they could give their honest opinions. No email addresses were collected. The link to the Google Form was placed in the API module structure on Blackboard, and an announcement was created about it, asking the students to participate. I could see the responses online and also download it for transcription. I believe the students participated to get their voices heard and contribute to ideas to revamp the module. I also asked the students to elaborate on questions and add any information they thought the survey did not address.

Data Analysis

According to Maree (2020), content analysis is the most commonly accepted data analysis strategy for descriptive qualitative studies. A broad definition of content analysis is any systematic method used to objectively interpret specified aspects of messages. It is a valuable technique that allows the researcher to discover and describe people, places, actions, context and events. Thematic analysis is a data analysis method for identifying, scrutinizing, organizing and reporting themes (patterns) in the data (Braun & Clarke, 2006). Braun and Clarke (2006) argue that thematic analysis is a valuable method for analyzing the perspectives of different research participants, identifying similarities and differences, and generating insights that the researcher did not anticipate.

RESULTS AND DISCUSSION

Why Administrators Choose a DE Experience

The DE administrator said that the position in DE was offered to her while she was in the Postal Division, and it seemed like a fit challenge for her. For the DE instructional designer, the position allows him to explore multiple sophisticated technological systems, which was one of his interests and focus of learning.

Why the Academic Supporter and Tutors Choose a DE Experience

More than one tutor said that they wanted to be a full-time lecturer or teacher and did not get the opportunity to do so, but they still want to share their knowledge with the broader community of students. One tutor said: "A position in a tertiary institution within my skillset was an opportunity hard to turn down, API was one of the modules I enjoyed and excelled in during my B Ed Hons studies and I wanted to replicate a similar experience for the other students". Another tutor shared that the position enabled her to teach students from different provinces in South Africa and overseas.

The academic supporter said: "I signed up for DE initially, because I could pass on the knowledge and skills that I have gained in my career over the years. I saw it as a golden opportunity to learn new skills. I

could also communicate and share the teaching experience that I've gained over the more than 40 years in education. Being an office-based educator at the Gauteng Provincial Head Office, I have first-hand knowledge and experience of developments and changes in the Department of Education. As such the students I tutored could receive upfront, first-hand knowledge of new development which they, in turn, can apply in their teaching".

Why Students Choose a DE Experience

Most students are mature (late 20's to late 40's) and are occupied with their full-time jobs and family responsibilities, their own children and extended family. One student said she needed an educational qualification; this was the only online degree in which she could enroll part-time and online. Three students said they specifically wanted to study at the University of Pretoria, but were working too far from the premises. One said: "I am a full-time employee who wanted to upgrade my qualifications with one of the greatest institutions in South Africa". Another chose the degree to improve his teaching and school management skills while working. Many students name personal and professional development, as well as convenience.

DE Administration

The DE administration officer said: "In 2002 the program structure was still paper-based, and we constantly communicated with programmers to develop new programs to manage assignments and final marks. We did receive a lot of assistance from the management team. When we moved to fully online we received a lot of help from the academic and management teams to make the move smoother. We definitely work as a team, and no problem is too big to handle". She also raised a concern about the communication between Human Resources, DE management, admin staff and tutors that should increase. According to the instructional designer: "The UDE organisation and management is well run. For instance, all set dates are honored and students' results are released on time. Students queries are attended to on time. All programmes put in place are delivered successfully and there is respect between the different role players." His concern was that the UDE should have their own computer laboratory where module coordinators, tutors and students can be trained daily to eradicate technological illiteracy.

According to the academic supporter, the DE administration is extremely competent. They attend to queries from students and tutors promptly and extensively. She says that students do not read the administrative booklet or notifications posted on Blackboard and then send direct queries to her instead of the Admin team, which wastes a lot of time. She also believes that measures need to be put in place for students who do not attend the contact sessions. Students also expect responses immediately, while the turnover time is three days. They also contact her on her cell phone, which is not permitted.

The tutors agree that the Admin section meets the necessary requirements, but that there should be more contact sessions organized, face-to-face, or online. Participation certificates are given to recognize the tutors after training. The tutors like the regular meetings and the high level of support given to students. For example, before students write the assignment, they are taken through each question to enable them to understand the questions better. The tutors feel that they must be officially informed if the number of students drop, which may influence their participation and salary. According to one tutor, the hierarchy amongst employees is well established and the roles and responsibilities are clear. The instructional designer is always available if any student or staff member has questions if any glitches occur, like students not being able to upload assignments.

The investigated DE students used words like "(Very) / Good", "Great", "Excellent", "Fantastic", "Very organised", "Very effective and helpful", "Considerate", "Professional", to explain how they feel about the administration. They indicated that they use Blackboard extensively and like the common template used by the UDE for different modules. They also believe that the training provided by the Education Innovation section of the University of Pretoria is thorough and that they can use the system after the training. One student said: "Orientation was good enough- you just go through the slides and know what is expected". Others differed from this. One student mentioned: "They should consider that we are still

learning technology and do not always have data or an internet connection". Another said: "Sometimes it is not easy for us, we are old teachers and new to this".

Students like the fact that there is no written sit-down exam. They would like to have face-to-face contact sessions where they can interact personally with the facilitators or visit the campus and be helped in person. They say that the contact sessions are informative and helpful, very productive and should be done more often, especially on Saturdays when more of them can attend. They appreciate the fact that recordings of the contact sessions are available afterward. Most have respect for how communication with UDE Admin is facilitated, but some say that ways of communication and registration need to be improved.

They do not want a discussion on the discussion board if it does not count for marks, but others ask for opportunities for group discussions or question and answer sessions. They prefer to communicate via emails, but some said that Admin do not answer the emails, while others disagree with this. They are satisfied with the content of the learning guides. Many of them are not satisfied with the weighting of assessments, because it takes too long to do the last assignment that counts 70% of the overall mark. Students suggest that this assignment be broken up into smaller tasks and handed in on different dates. One student mentioned: "They should take in consideration that we are still learning technology and do not always have data or an internet connection".

Most students like the different internet resources they are exposed to and do not like to buy textbooks anymore, but some has a different opinion and ask for a prescribed text book or clear links to resources that are still available. They like the set up containing a module coordinator, academic supporter and tutors. They like the instructional designer, who keeps the admin system going. He is also very quick to resolve queries. According to the students and tutors, the academic supporter is doing her job to the fullest. She invites the tutors to participate when she does training with students. She sends all the emails that she sends to students, to the tutors too. She even phones and checks if the tutors experience difficulties or need something like a rubric or memorandum on time. Memorandum discussions are also conducted in time.

About Blackboard

The University of Pretoria Blackboard version is called ClickUp. Lecturers have a variety of course documents to provide to students. Such documents include the syllabus, study guides, handouts, projects and assignments. By providing these documents in a central location, students learn quickly to go to Blackboard to get everything they need. Most tutors and students find the Blackboard LMS user-friendly, but a lack of data and connectivity hampers some students' experience. It can be difficult to navigate for new students, especially those who are not tech-savvy. Some students find it difficult to upload their assignments through the Turnitin link. Some lecturers also do not make their links accessible on time and students complain that there are too many tabs or icons to consider. The utilization of the LMS depends solely on the efficiency of the user. It is much simpler to use with sufficient and efficient training.

Blackboard has many features that help academics to stay organized and help students engage with content. Tools such as announcements help to communicate with students quickly, whilst the grade center provides grades in electronic format. Students prefer to see grades immediately. This electronic access reduces the number of inquiries - phone calls and emails - from students wanting to know a grade on a specific assignment or their overall grade in the course. The discussion board helps students engage with content and become a community of practice.

The integration of Turnitin into the LMS helps lecturers and students guard against plagiarism. With the introduction of Artificial intelligence (AI), many students use ChatGPT to write assignments for them, but the Turnitin tool also shows the AI percentage, and students are penalized for using it without paraphrasing and providing reliable resources. Blackboard Collaborate is the tool that is used to conduct online classes and meetings. Recordings of the contact sessions are also available on the platform. It is easy to use, and content can be shared via pdfs and PowerPoints. Participants can assume different roles, like participant, guest or moderator. Even groups over 250 can be accommodated on the platform.

Some suggestions for improvement from students are that the university should come up with strategies to increase student participation, for example, a merit/reward system in the form of marks. ClickUp pages could be presented as an online study guide. According to the students, it is irritating to download

documents and store them offline. There should be links to hypertext on ClickUp pages. There should be a main page for each module with sub-pages listed in the left margin for each unit and text inside those sub-pages, instead of links to pdfs, Word docs, etcetera. There should be a downloadable pdf of documents at the top of the page for those who want to work offline. Some students also complain that messages you start on the Discussion board are discarded if you leave ClickUp. Provision should be made for drafts. Students ask that the recorded sessions be streamed to YouTube so that they can watch the recordings there. If the module coordinator persists with Blackboard playback, the videos must be made downloadable with meaningful titles so the students know what the session was about. While teaching, the lecturer should always read out questions and comments from the chat, and not just assume that the audience has seen the chat messages.

Pedagogy and Contact Sessions

The DE administrator recommends that a recording of the contact session should be given to the students before the contact session, and that the online session can be used for full-on interaction between the tutor and students- asking questions about aspects they do not understand. The instructional designer also describes the contact sessions as greatly beneficial for students. It allowed for more students to participate and seek understanding before handing in assessments.

In the past, (from 2017 to Covid) the contact sessions were face-to-face in five different provinces in South Africa. During Covid, everything was online. After Covid, some face-to-face sessions were given again. The problem is that sending lecturers to different parts of South Africa is very expensive, while only a few students attend the sessions. But, the tutors and students think that the physical contact sessions are great. At this moment, we returned to online contact sessions. The tutors and students think that more contact sessions are required. Contact sessions should be made compulsory to attend and done every month or even every two weeks. Some also suggest that it should be two to three days in the holidays. Contact sessions should be conducted earlier in advance of the assignment date, and students should be allowed to have group discussions during contact sessions that count for marks. They must be able to defend their position. One student also suggested that students should be given compulsory activities to submit and discuss on Blackboard.

The leaders in every module can also set up extra contact sessions and just send out an announcement about the date and time. Students may also request more help in certain aspects of the curriculum. Students have a module coordinator, academic supporter and at least one tutor that run the module. The academic supporter is mainly in charge to conduct the contact sessions. API733 contact sessions are done at the beginning of the module and before every assignment. In between students can use the discussion board or emails that are answered as soon as possible. According to students, instruction and training on the setting of assessments can be improved. Some limitations cannot be overruled; like load shedding, network challenges and limited data, but the recordings are always available afterwards. Students prefer that videos be used. It is good that contact sessions are recorded.

The API733 Module

Overall, opinions reflect that this module is one of the most imperative modules in the education fraternity. According to tutors and students it should be offered across specializations. It offers students a critical insight and understanding of assessment and how to properly conduct it. Every educator needs this knowledge. Development of activities using Bloom's taxonomy and learning about principles and purposes of assessment are appreciated. One student said: "It is very relevant to my teaching practice. With the little development I received as a young teacher, I learned a lot about assessment that applies to my work. It improved me as a teacher". Another student appreciates that all the assignments are given in the learning guide at the beginning of the module, because it helps them with planning and time management.

This module can be improved through sparking meaningful discussions and encouraging students to ask open-ended questions. Content on blended learning can be added. Assessment of learners with barriers and how to revise content before a learner is assessed can be added. Many students do not know how to create online assessments. One student requested that the revision part before assessment should be covered.

Marks should be added for discussions and research related activities. In a 30 marks assignment, 10 marks should require students to discuss/argue. A more practical assessment approach would be great. The module can focus more on setting quality assessments. More than one student stated that there is too much focus on digital educational games without providing support to use these in class. One student advocated for more content on using computer games. More than 80% of schools do not have computer systems for learners and games are not incorporated in daily classwork. Monitoring and moderation, as well as systemic assessment, are not covered. The students also want to know more about the difference between assessment in public and private schools, which follow different curricula.

Since the start of this research, the next block of DE students entered the qualification. The academic supporter and I revised all the assignments and changed the weighting. We added content on moderation, systematic assessment and the differences in assessments in the CAPS and IEB syllabi. We took out computer-based games and introduced the make of a Flip grid / YouTube video / podcast where students have to introduce themselves and what they expect of the module and answer questions on the differences between assessment and evaluation, the purposes of assessment, etcetera. We also introduced the making of a narrated PowerPoint where the teachers must inform the parents about how they will ensure that their assessments will be valid and reliable. In a Google Form format, students needed to work out a test on different types of questions. They have to upload the subjects' syllabus and ask ChatGPT to work out a test/exam with different types of assessments. They needed to take in regard all the hints we discussed in writing different types of questions, and then change the prompts given to ChatGPT to change the assessment and comment on the accuracy of it. We also revised the content of the statistics part, to make it easier to understand and used terminology that teachers are more familiar with in a class situation and did not link it to an assignment anymore. We also included international assessment, like PIRLS and TIMSS, and these tests' influence on learners and teachers in the assignments.

CONTRIBUTION

In this article, I wanted to show how things are done in the UDE at the University of Pretoria. More insight was given on how an assessment module in DE works, the content topics, the pedagogy and the use of the LMS Blackboard. As a module coordinator, I can learn a lot from the experiences of the DE tutors and students, and it inspired me to change the module to incorporate many of the students' opinions.

CONCLUSION

This study investigated the technology, pedagogy and content of an assessment module in Distance Education at the University of Pretoria. The main findings are that the Blackboard LMS is easy to use and useful. The pedagogy is mainly handled through contact sessions, discussions and putting up content on the LMS. The module's content is seen as very important in the arsenal of teachers. As discussed above, the students' suggestions were already used to improve the module. The module coordinator and instructional designer believe that the offerings of DE should be expanded to undergraduate programs.

REFERENCES

- Adolphus, M. (2021). *How to undertake case study research*. Emerald Publishing.
- Anderson, A., Bartman, N., & Bortcote, M. (2013). Using the TPACK framework to unite disciplines in online learning. *Australasian Journal of Educational Technology*, 29(4), 549–565. doi:10.14742/ajet.24
- Andrew, I. (2020). *Adult learning principles*. Retrieved from <https://www.valamis.com/hub/adult-learning-principles>
- Bates, A.W. (2015). *Teaching and Learning in a Digital Age*. Retrieved from <http://opentextbc.ca/teachinginadigitalage>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Coimbra, M., & Martins, A. (2013). Case Studying Educational Research: A Way of Looking at Reality. *American Journal of Educational Research*, 1(9), 391–395.
- Eberly Center. (2022). *Theory and Research-based Principles of learning*. Carnegie Mellon University. Retrieved from <http://www.cmu.edu/teaching/principles/learning.html>
- Graham, C.R. (2011). Theoretical considerations for understanding technological pedagogical content knowledge (TPACK). *Computers & Education*, 57(3), 1953–1960. <https://doi.org/https://doi.org/10.1016/j.compedu.2011.04.010>
- Check, J. (2011). *Research methods in education*. Sage publications.
- Kabir, S. (2016). *Methods of Data Collection*. Retrieved from <https://www.researchgate.net/publication/325846997>
- Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60–70.
- Maree, K. (2020). *First steps in research* (3rd ed.). Van Schaik Publishers.
- Mishra, P., & Koehler, M.J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054.
- Nieuwenhuis, J. (2020). *Qualitative research designs and data-gathering techniques*.
- Shulman, L.S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14. <https://doi.org/10.3102/0013189x015002004>